

**HIGH-PERFORMANCE, HIGH-DENSITY INK JET PRINTHEAD  
HAVING MULTIPLE MODES OF OPERATION****ABSTRACT OF THE DISCLOSURE**

5 A monochrome ink jet printhead having a high-density array of ink drop  
generators capable of multi-mode operation. The printhead of the present  
invention includes the array of ink drop generators arranged in at least three  
groups of nozzles with each group staggered relative to each other. This  
10 staggered arrangement provides high print resolution at high speed. In  
addition, the multiple modes of operation provided by the present invention  
permits different print modes depending on the desired print speed, resolution  
and quality. In a preferred embodiment, the present invention is capable of  
printing in a one-pass 1200 dpi mode at high speed, a two-pass 600 dpi mode  
15 high print quality and a one-pass 600 dpi mode at high speed. The present  
invention also includes a method of high-performance printing using the ink jet  
printhead of the present invention.

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